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Committee on the Peaceful Uses of Outer Space
Legal Subcommittee
Fifty-seventh session
Vienna, 9–20 April 2018

Draft resolution entitled "Fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space: space as a driver of sustainable development"

Working paper submitted by Canada

I. Introduction

1. At the fifty-fifth session of the Scientific and Technical Subcommittee, held in Vienna from 29 January to 9 February 2018, the Working Group of the Whole noted that in order to advance the work on the preparation of a draft resolution on the outcomes of UNISPACE+50, the delegation of Canada would take the lead and organize an informal meeting before the fifty-seventh session of the Legal Subcommittee that would be open to participation by all States members of the Committee on the Peaceful Uses of Outer Space (A/AC.105/1167, annex I, para. 9).

2. The Working Group also noted that the aim of that meeting would be to jointly prepare the text of a draft resolution based on the existing text (A/AC.105/C.1/2018/CRP.16/Rev.1). The result of the work of that informal meeting would be presented in a working paper that could be considered by the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space at the fifty-seventh session of the Legal Subcommittee, to be held in Vienna from 9 to 20 April 2018.

3. The informal meeting was held in Vienna from 5 to 9 March 2018. It was chaired by the delegation of Canada and was facilitated by the Secretariat.

4. The annex to the present document contains the draft text of the resolution prepared by representatives of States members of the Committee during that informal meeting, based on the existing text contained in A/AC.105/C.1/2018/CRP.16/Rev.1. The draft text is the consensus-based result of the informal meeting, unless otherwise indicated in square brackets in the text.

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Annex

Draft resolution entitled "Fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space: space as a driver of sustainable development"

The General Assembly,

Recalling its resolutions 2453 A (XXIII) of 20 December 1968, 37/90 of 10 December 1982, 54/68 of 6 December 1999, 59/2 of 20 October 2004 and 72/79 of 7 December 2017,

Recognizing that the fiftieth anniversary of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50) offers a unique opportunity for Member States to reflect on more than 50 years of achievement in space exploration, at a time when actors, both governmental and non-governmental, are increasingly becoming involved in ventures to explore space and carry out space activities,

Convinced that UNISPACE+50 also offers a unique opportunity for Member States to look toward the future by strengthening the mandates of the Committee on the Peaceful Uses of Outer Space, its subsidiary bodies and the Office for Outer Space Affairs of the Secretariat as unique platforms for international cooperation in the peaceful uses of outer space,

[*Note: placement of this paragraph to be discussed*] *Recognizing* that space science and technology and their applications have and will continue to have a significant role in implementing, achieving and contributing to the monitoring of the goals and targets of the comprehensive 2030 Agenda for Sustainable Development,[1] [particularly in areas of critical importance for humanity and the planet],

Reiterating that all countries, irrespective of their degree of economic or scientific development, are participants in, contributors to and beneficiaries of the exploration and peaceful uses of outer space,

Emphasizing that, for the past 50 years, the Committee on the Peaceful Uses of Outer Space, its Scientific and Technical Subcommittee and its Legal Subcommittee, supported by the Office for Outer Space Affairs, have provided a unique and fundamental platform at the global level to promote international cooperation in space activities at all levels, foster dialogue among spacefaring and emerging space nations, increase capacity-building efforts for developing countries and shape the space governance framework to benefit people and the planet,

Convinced, therefore, that the fulfilment of the 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction 2015–2030 and of the commitments by States parties to the Paris Agreement requires stronger coordination of and support by those States at all international levels, including through improved access to space-based data, applications and space infrastructure,

Seriously concerned about the possibility of an arms race in outer space, and bearing in mind the importance of article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[2]

Recognizing that all Member States, in particular those with major space capabilities, should contribute actively to the prevention of an arms race in outer space, with a view to promoting and strengthening international cooperation in the exploration and use of outer space for peaceful purposes,

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[1] General Assembly resolution 70/1.

[2] United Nations, *Treaty Series*, vol. 610, No. 8843.

Deeply concerned about the fragility of the space environment and the challenges to the long-term sustainability of outer space activities, in particular the impact of space debris, and recognizing the need to use space science and technology to preserve the Earth and the space environment, as well as the role of international cooperation in this regard,

Acknowledging that significant changes have occurred in the structure and content of space activities, as reflected in the emergence of new technologies and the increasing number of participants in such activities and, in this regard, recognizing the benefit of strengthening [national] regulatory frameworks,

Reiterating, in that regard, the role of the Outer Space Treaty as the cornerstone of the international legal regime governing outer space activities, reiterating also that the Treaty manifests the fundamental principles of international space law, and convinced that the Treaty will continue to provide an indispensable framework for the conduct of outer space activities,

[*Note: option 1*][*Mindful* of the need to promote universal and safe [and equitable] access to the scientific, technological, economic, social, environmental and cultural benefits of space activities,]

[*Note: option 2*] [*Mindful* [that the long-term sustainability of outer space activities is [defined as] the ability to maintain the conduct of space activities indefinitely into the future in a manner]/[of the need] [to realize]/[that realizes] the objectives of [equitable]/[enhanced] access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations in the interest of all humankind,]

Convinced of the need for the Committee and its subcommittees to continue to address the emergence of commercial activities in outer space and consider how commercial actors might support the achievement of the Sustainable Development Goals,

Mindful of the importance of increasing knowledge of outer space, including through enhanced access to astronomy and space science data for the benefit of humankind,

Emphasizing the need to build stronger partnerships and international cooperation and coordination in the exploration and peaceful uses of outer space at all levels and among the participants representing the broader space community, in order to enhance the contribution of space activities for the realization of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals and targets contained therein,

Noting with satisfaction that the Committee, in preparation for UNISPACE+50, has analysed the impact of the three UNISPACE conferences, held in 1968, 1982 and 1999, as well as the review undertaken in 2004, and assessed its past, present and future role, as well as those of its subcommittees and the Office for Outer Space Affairs, within the five identified cross-cutting areas of governance, capacity-building, resiliency, interoperability and space for sustainable development, and noting with satisfaction also that that assessment provided the basis for the selection of seven thematic priorities of UNISPACE+50,[3]

Noting with appreciation the outstanding work of the Committee and its subcommittees and the Office for Outer Space Affairs carried out under the seven thematic priorities of UNISPACE+50,[4] the related objectives and mechanisms in that regard, all background documents in preparation for UNISPACE+50 [, including the "Space2030" agenda,] and the work carried out within the framework of the

[3] See A/AC.105/L.297 and A/AC.105/1137.

[4] *Official Records of the General Assembly, Seventy-first Session, Supplement No. 20* (A/71/20), para. 296.

four identified pillars, namely space economy, space society, space accessibility and space diplomacy,[5]

Emphasizing that the seven thematic priorities of UNISPACE+50 represent a comprehensive strategy for addressing key areas that together determine core objectives for the future work of the Committee and its subcommittees and the Office in the areas of global partnership in space exploration and innovation, current and future perspectives of the legal regime of outer space and global governance, enhanced information exchange on space objects and events, international framework for space weather services, strengthened space cooperation for global health, international cooperation towards low-emission and resilient societies, and capacity-building for the twenty-first century,

Welcoming the UNISPACE+50 high-level segment, held in Vienna on 20 and 21 June 2018, that commemorated the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space and marked a significant step in the ongoing development of a comprehensive strategy, based on the preparatory process, to strengthen the contribution of space activities and space tools to the achievement of the global agendas addressing long-term [sustainable] development concerns of humankind based on the peaceful exploration and use of outer space,

1. *Notes with appreciation* that the UNISPACE+50 [consultative] process resulted in documents articulating a cross-cutting and strategic vision, in which space is seen as a major driver and contributor to the Sustainable Development Goals, their targets and indicators, and which strengthens international cooperation for that purpose;

2. *Invites* the Committee on the Peaceful Uses of Outer Space to continue to develop, based on the results of the UNISPACE+50 [consultative] process, a "Space2030" agenda and implementation plan and to provide the General Assembly with the outcome of its work for consideration by the Assembly at its seventy-fifth session;

3. *Acknowledges* the importance of global partnership and strengthened cooperation among Member States, intergovernmental and non-governmental organizations, industry and private sector entities in fulfilling the "Space2030" agenda and its implementation plan;

4. *Emphasizes* the need to take further coordinated action to ensure that space science, technology and their applications are utilized for sustainable development and the betterment of humankind[, and to promote international cooperation for that purpose];

5. [*Recognizes*]/[*Notes*]/[*Acknowledges*], in that regard, the need to align the unique role and mandate of the Committee on the Peaceful Uses of Outer Space and its subcommittees, supported by the Office for Outer Space Affairs, [to fulfil]/[with a view to aligning the mandate with] the "Space2030" agenda and its implementation plan [once agreed];

[6. [*Decides*, in that regard, to]/[*Reaffirms*]/[*Reiterates*] the unique role of the Committee on the Peaceful Uses of Outer Space and its subcommittees, supported by the Office for Outer Space Affairs, as the [prime intergovernmental platform]/[forum] for the discussion of issues affecting outer space activities, the promotion of international cooperation in the peaceful uses of outer space and the [negotiation of instruments pertaining to space activities] [development of space law], and, to this end, emphasizes the importance of strengthening the mandates of the Committee on the Peaceful Uses of Outer Space and its subcommittees and the Office for Outer Space Affairs, while encouraging Member States of the United Nations to become members of the Committee;]

[5] See A/AC.105/L.297 and A/AC.105/1137.

7. *Encourages* all States to continue to contribute actively to and promote and strengthen international cooperation in the peaceful use of outer space, for the objective of shaping a shared future for humankind, taking into account the particular needs of developing countries;

[8. *Agrees* to strengthen the implementation of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) of the Office for Outer Space Affairs, in order to assist UN-SPIDER and its network of regional support offices in fully delivering under its established mandate and be able to respond appropriately to the needs of developing countries;]

[9. *Emphasizes* the importance of capacity-building, education and training undertaken by the regional centres for space science and technology, affiliated to the United Nations, particularly for developing countries, and, in this regard, encourages the enhancement of these regional centres, as well as their alliance to improve their overall capacity;]

10. *Expresses its conviction* that the Committee on the Peaceful Uses of Outer Space, its subcommittees and the Office for Outer Space Affairs should continue to coordinate efforts to strengthen the implementation of the United Nations treaties and principles on outer space as a means of promoting the universality of the United Nations treaties on outer space;

11. *Invites* the Committee on the Peaceful Uses of Outer Space and the Office for Outer Space Affairs to enhance cooperation and coordination with other relevant entities within the United Nations system on space-related activities [within existing resources];

12. *Emphasizes* the need to strengthen the coordination and interrelationship between the Committee and its subcommittees, assisted by the Office for Outer Space Affairs, in addressing agenda items in a comprehensive, cross-cutting manner, combining scientific, technical, legal and policy dimensions, and to foster through its agendas the use and utility of space as a driver of global sustainable development towards 2030 and beyond;

[13. [*Note: option 1*] *Notes* the unique role of the Office for Outer Space Affairs in supporting the Committee and its subsidiary bodies, in its capacity as secretariat to those bodies, and in carrying out capacity-building activities in the field of space science and technology and their application, [regulatory frameworks and mechanisms for emerging spacefaring nations]/[international space law], policy and space-related institutional capacity-building, in an integrated and targeted manner, and in cooperation with Member States, international intergovernmental and non-governmental organizations and industry and private sector entities, [the Office needs adequate financial and human resources to fulfil its mandates to fully support Member States] [and, in this regard, calls upon the Secretary-General to consider, within existing resources, ways to return the budget of the Office to 2010–2011 levels];]

[13. [*Note: option 2*] [*Notes* the unique role of the Committee, its subsidiary bodies and the Office for Outer Space Affairs, in its capacity as the secretariat to those bodies, and their contribution to implementing the present resolution, and calls upon the Secretary-General to consider way to reprioritize resources in this regard;]

14. *Invites* Member States and other donors to provide voluntary extrabudgetary resources for these purposes, in accordance with the rules and procedures of the United Nations.

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Committee on the Peaceful Uses of Outer Space
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Item 7 (a) of the provisional agenda*
Matters relating to the definition and delimitation of outer space

The challenging context of considering all aspects of the delimitation of airspace and outer space: arguments for adding dialectical elements to, and setting new analytical trends in, discussion of the issue

Working paper submitted by the Russian Federation

1. The authority and responsibility of the Committee on the Peaceful Uses of Outer Space as regards finding a solution to the issue of the delimitation of airspace and outer space were clearly defined decades ago. Nevertheless, the Committee has been unable to make significant progress on the matter. It is evident that States do not share a common view of the ability of the Committee to achieve agreement in this field. Perhaps the "ideology of delimitation" has become a spent force and can easily be dispensed with in the light of current and expected developments in the use of aerospace transportation systems. Perhaps the Committee is handling the topic in a markedly conservative way while the entrenched set of traditional views of the problem has become obsolete and has ceased to reflect reality. That is not so. No doubt a fresh approach to the topic is needed, especially considering that it would be erroneous to assert that the very idea of the delimitation of airspace and outer space is losing its relevance and is not supported by practical needs. As for the modalities of addressing the issue, there is certainly room for improvement. The Committee should define a set of logical steps that could effectively improve the process of developing solutions to the problems posed by delimitation.

2. What could be the determinants of success in intensifying work in this field? First of all, the Committee should take measures to ensure that capacity to apprehend the problem at a higher intellectual level is not diminished. This means overcoming indecisiveness in identifying new lines of inquiry, and inertia with respect to understanding of the topic, through more active discussions and involvement in analytical work. To a certain extent, the initiative of the World Meteorological Organization (WMO) to develop a kind of "sectoral" definition of "space" (in line with the Organization's remit) affords the opportunity to formulate, within the

* A/AC.105/C.2/L.303.

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framework of the Committee, entirely appropriate considerations that build on delimitation perspectives and, perhaps, to ensure a more manifest commitment to addressing the various practical facets of the topic. The delimitation issue should be viewed as reflecting a complex interplay of factors shaped by a variety of interests and the combination of a range of pressures.

3. It should be noted that WMO, in presenting to the Committee in summarized form information on its intention to adopt a definition of "space", was not explicit in explaining the circumstances that had led to its decision. In fairness, the idea of defining "space" has not turned out to be sufficiently self-evident. Rather, it seems to be elusive in the sense that it is practically impossible to identify its merits in the specific context of the tasks facing WMO, whichever area of its activities is considered. For example, the proposed definition has no connection whatsoever with the study of factors influencing space weather and their impact on climate, atmospheric processes and human life, which are within the purview of WMO.

4. Not only was the presentation of the WMO proposal to the Committee vague but, also, WMO did not seek the opinion of the Committee or its Legal Subcommittee. The authors of the initiative should have indicated their interest in establishing an interactive relationship with the Committee. The delegation of the Russian Federation at the sixty-ninth session of the Executive Council of WMO drew this situation to the attention of the WMO secretariat. The issue of the definition of "space" was withdrawn from the agenda of the session in accordance with WMO procedures. Such a decision can only be welcome. It is important to understand that the problem lies not in the absence of a desire on the part of States to rely on innovative and pragmatic approaches elaborated for practical purposes but in the need to take into account the various contexts in which the issue of delimitation and the definition of space are considered. This does not mean that WMO might not be in a position to determine the possible scope of its authority — or even establish its exclusive competence — to address, directly in relation to the subjects that its work covers, specific issues that might somehow be related to the delimitation and definition of outer space. It is evident, however, that the Organization should make a strong case for those of its proposals that are introduced in connection with a topic that falls within the purview of the Committee's mandate.

5. As indicated in document A/AC.105/1112/Add.2, WMO recognizes that settlement of the issue of definition and delineation of outer space will have legal implications. This, according to WMO, explains why the Committee has been considering this topic for many years. At the same time, the definition of outer space proposed by WMO itself almost inevitably leads to the conclusion that a boundary can be established and that it should be at the upper boundary of the mesosphere (i.e., at an altitude of 80–90 km). The problem is not the specific altitude (although that altitude is different from the ranges proposed earlier by States — for instance, 100–110 km). The real problem is that the definition of "space" proposed by WMO will, if adopted (including as part of the WMO Technical Regulations), create a rather risky precedent. As a result, political factors will take hold, causing the single topic of delimitation of airspace and outer space to be broken up and divided among different specialized agencies of the United Nations. It is noteworthy that in this specific case WMO does not use the term "airspace" and does not refer at all to the delimitation of airspace and outer space. If technical and legal decisions regarding the airspace boundary were similarly left solely to the International Civil Aviation Organization (ICAO) (within its exclusive competence), the situation would very likely develop according to a geopolitical scenario.

6. The World Health Organization (WHO) expressed the opinion (A/AC.105/1112/Add.2) that the definition and delimitation of outer space was necessary for the elaboration of appropriate legislation or regulations related to public safety and suborbital flights. Moreover, in document A/AC.105/1039/Add.8, WHO stated that the definition of outer space would be essential in the context of the protection of the health of travellers on suborbital spaceflights, as well as in defining on-board health and safety requirements and related essential medicines and medical

devices. These statements raise a number of questions. In particular, with regard to air quality issues, it follows from the document "WHO air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide: global update 2005 — summary of risk assessment" that in this context the matter concerns only the surface layer of the atmosphere at altitudes at which a human being can breathe without special equipment. If suborbital flights are the focus, the delimitation of airspace and outer space is neither justified nor necessary from the perspective of protection of human health, because in order to obtain the required estimates of accumulated dose of radiation and determine other physical parameters on the basis of which the degree of risk that such a flight involves is evaluated, the physical characteristics (physical models) of the environment through which an aircraft passes should be taken into account, and in that case it makes no difference how that environment is formally named. Such models are already available and are being reviewed within the framework of the WMO Interprogramme Coordination Team on Space Weather. WHO could use those models to calculate the physical parameters of the environment that are required in order to assess human health risk factors.

7. There is a risk that different specialized agencies of the United Nations system might establish definitions of both "space" and "airspace" and define elements of the regulation of suborbital flights, indeed, even elements of the concept of space traffic management. If this happens, some stakeholders will inevitably seek to portray such basic definitions and concepts elaborated outside the Committee as essentially reflecting the views of the entire international community. That in turn will raise the question as to whether there are objective grounds for preserving the mandate of the Committee with regard to the delimitation and definition of outer space.

8. It seems plausible to argue that any initiative that provides for separate solutions with regard to the definition and delimitation of airspace and outer space may, for objective reasons, be viewed as directly related to the topic of space traffic management. More specifically, from a political perspective, such initiatives seem to promote the idea of establishing an additional "stratum" (zone) between airspace and outer space for the purposes of suborbital flights that would be exempt from the provisions of space law that include the crucially important ban on placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapon of mass destruction. The idea of a "stratum" has been circulating only in expert circles to date. At the same time, political developments increasingly confirm that considerable efforts and resources are being devoted to supporting the risky idea of an expedited transition to space traffic management. Both experts and politicians should be cautious in defining a hypothetical context of research on the space traffic management issue and mindful of the considerable difficulties that such a path might pose.

9. Somehow the Committee has become caught up in discussing only civilian applications of new-generation transportation vehicles, for example, for tourism. Sooner or later this idyllic way of thinking will have to change. What about practical issues of safety and security? It is obvious that the possibility of power projection using such new-generation vehicles is no longer purely hypothetical. If the Committee wishes to ensure that its activities reflect political realities, it should, when addressing the delimitation issue, engage in addressing the challenging task of identifying all facets of regulation or, at least, present forecasts representing an important step in the analysis of all potential safety and security issues involved. Those States that consider themselves to hold well-founded views on the concept of space traffic management, and States that may be sympathetic to or supportive of the idea of a new "stratum", should demonstrate courage and come forward with ideas as to the basic norms that might govern activities in this hypothetical area and that organically reflect the wide spectrum of issues related to security and strategic stability.

10. The International Telecommunication Union (ITU) would, for objective reasons, be interested in finding an answer to the question as to the stages of a suborbital flight of an aerospace transportation vehicle at which that vehicle's radioelectronic equipment (receivers/transmitters) could be subject either to the provisions of the

Radio Regulations pertaining to terrestrial radiocommunication services (in particular, services that regulate aircraft radiocommunication) or to the provisions of the same Regulations related to space radiocommunication services. During the flight of a launch vehicle, including the suborbital part of the trajectory, the functioning of the vehicle's radioelectronic equipment (and, as the case may be, of its payload) is subject to the provisions of the Radio Regulations related to space operation services. The Radio Regulations recommend using satellite radiocommunication services at altitudes above 100 km despite the fact that the minimal altitude of the perigee of a highly elliptical orbit may be less than 100 km. Given that the maximum altitude of suborbital flight may significantly exceed 100 km, it would certainly be of interest to understand what functional solutions to the problem of applying the provisions of the Radio Regulations could be proposed with respect to such flights. It would be logical to assume that an aerospace vehicle performing a suborbital flight which starts from the Earth's surface or from airspace might well be served by aeronautical radiocommunication services up to a certain altitude and subsequently by satellite radiocommunication services. In the same way, an aerospace vehicle that performs a suborbital flight in outer space could be effectively supported by satellite radiocommunication services and, below a certain altitude, by aeronautical radiocommunication services. Therefore, ITU might find it appropriate and acceptable to set a boundary at a certain altitude that would separate two zones: one where terrestrial radio services would be used and one where space radio services would be used. However, the establishment of such a boundary has nothing to do with the delimitation and definition of airspace and outer space. There is no evidence of any real need to introduce changes to the Radio Regulations with the specific aim of regulating the use of the radioelectronic equipment of suborbital objects.

11. Trust-building measures should be key to the establishment of a behavioural model, and that being the case, can be implemented only with honest intentions. Otherwise, it is unlikely that positive and trust-based relations can be built between States. Therefore, when dealing with such issues as the delimitation of airspace and outer space, States should facilitate open discussions and the candid exchange of views on all possible aspects of the topic.